

Appl. No.: 10/543,029  
Amdt. dated April 2, 2008  
Reply to Office Action of January 8, 2008

### **REMARKS IN RESPONSE TO THE OFFICE ACTION**

This amendment is responsive to the Office Action dated January 8, 2008. The Office Action raises an objection against Claim 3 with regard to recitations that are indicated as redundant in view of Claim 1 from which Claim 3 depends. The Office Action furthermore raises an objection against Claim 10 with regard to the phrase “string outlets,” and suggests “exit regions” to better correspond to the language of Claim 1, from which Claim 10 depends through Claim 9. Regarding the patentability of the claims in view of cited references: Claims 1, 4, 6-10, 13-14, 16, and 18-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,054,992, to Ballas et al. (“the Ballas patent”); Claims 5 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Ballas patent; and Claims 11, 12, 23, and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Ballas patent in view of U.S. Patent No. 5,761,816, to Morabit et al. (“the Morabit patent”).

Applicant respectfully requests reconsideration of the claims in view of the amendments already set forth herein and in view of the Remarks set forth in the following, in which certain portions are underlined to place emphasis on patentable aspects.

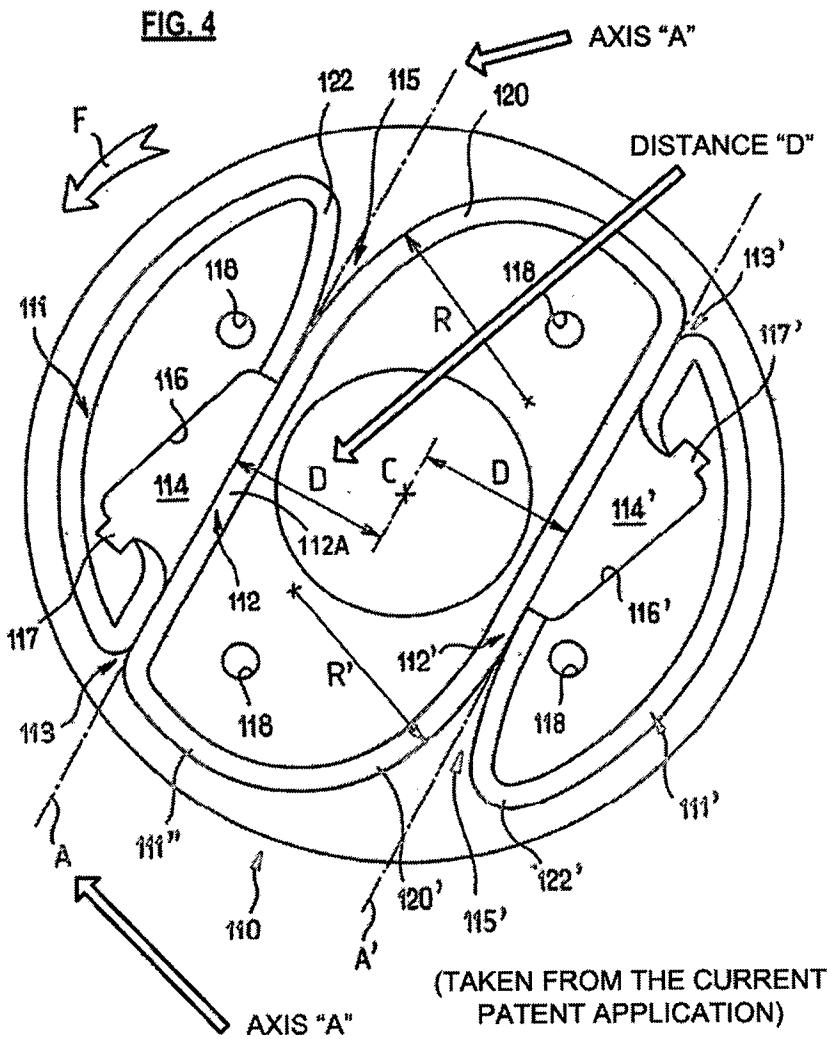
#### **Objections Toward Claims 3 and 10**

The objection raised against Claim 3 has been addressed by an amendment, which deletes recitations that are indicated in the Office Action as redundant in view of Claim 1. The objection raised against Claim 10 has been addressed by an amendment, which effectively replaces the phrase “string outlets” with the phrase “exit regions” as suggested in the Office Action. Applicant submits that the objections have been remedied and respectfully requests that they be withdrawn.

#### **Claims Rejections Under 35 U.S.C. § 102(b) and § 103(a)**

Independent Claims 1 and 14 relate to cutting heads that include passageways for cutter strings. The head of Claim 1 is characterized in that the passageway extends along an axis (A) that is spaced a distance (D) from an axis of rotation (C) of the head. The head of Claim 14 is similarly characterized in that the passageway extends along an axis (A) that is spaced a distance

(D) from an axis of rotation (C) of the head. An example of this feature, included in each of Claims 1 and 14, is illustrated in the present application at least in FIG. 4 below, wherein the passageway "112" extends along the axis "A," which is spaced a distance "D" from the axis of rotation at the center "C" of the cutting head. This feature represents a distinction at least by which Claims 1 and 14 are patentable over the Ballas and Morabit patents. FIG. 4, as it appears below, has been additionally marked to point out the axis "A" and the distance "D."

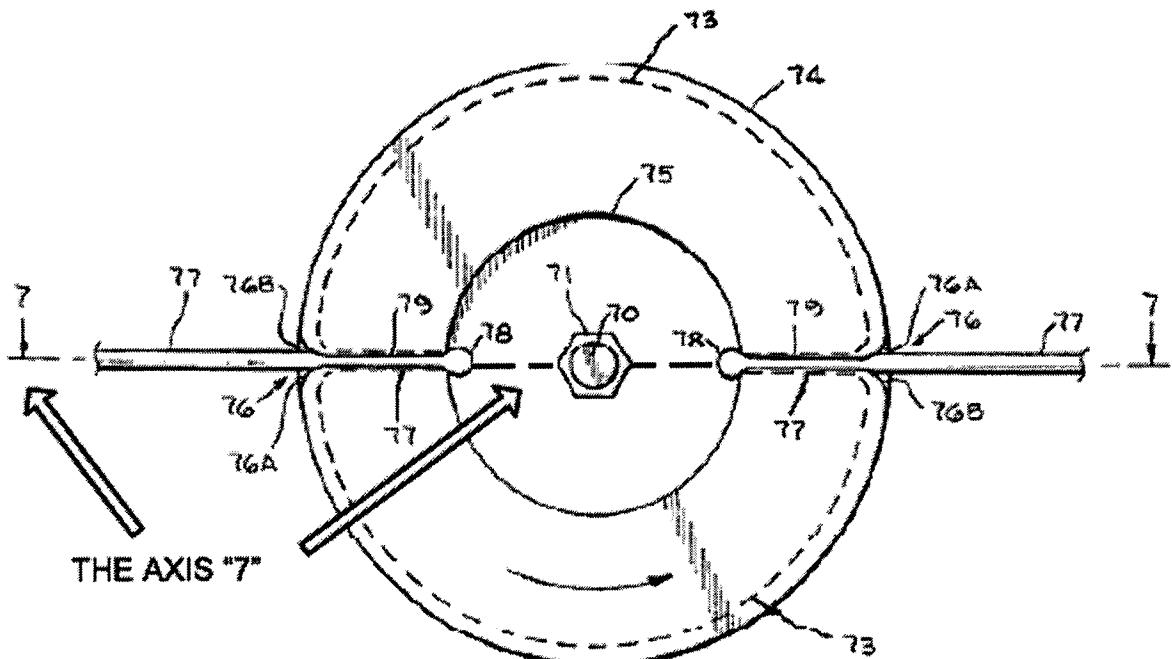


Note that, in FIG 4 above, the axis "A" extends non-centrally across the illustrated cutting head and is spaced a distance "D" from the center "C," which defines the axis of rotation.

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The term “axis” is intended to refer to an imaginary line, extending forever and beyond the limits of FIG. 4 above. The claimed passageway relates to a physical feature, and therefore can be meaningfully said to extend only for some finite length along the axis “A.” The distance “D” refers to a direct characterization of the axis “A” in that the distance “D” refers to the closest approach of the axis “A” to the axis of rotation “C.” In view of FIG. 4 above, and in the context of Claims 1 and 14, the axis “A” can be understood to extend forever without intersecting the axis of rotation “C” because the axis “A” is spaced from the axis of rotation “C.” The Ballas and Morabit patents illustrate cutter string passageways that clearly extend along axes that intersect axes of rotation.

In each drawing of the Ballas patent, cutter strings extend along axes that intersect, and are not spaced from, axes of rotation. For example, in FIG. 5, which is shown below and which was particularly cited in the Office Action, grooves “79” define cutter string passageways that extend along an axis “7,” which intersects the axis of rotation defined by the bolt-end “70.” FIG. 5, as it appears below, has been additionally marked to point out the axis “7,” and to expressly extend the axis “7” across the bolt end “70” by additional dashed markings. As shown in FIG. 5, the axis “7,” along which the string passageway grooves “79” extend, is not spaced from the axis of rotation defined by the bolt-end “70.” Indeed, the axis “7” crosses the center of the bolt-end and therefore intersects the axis of rotation. Therefore, the Ballas patent does not illustrate, does not anticipate, and does not render obvious a passageway that extends along an axis (A) that is spaced a distance (D) from an axis of rotation (C), as claimed in Claims 1 and 14.



**fig. 5**

(TAKEN FROM U.S. PATENT NO. 4,054,992, THE "BALLAS PATENT")

The Morabit patent is directed more toward the structure of a cutting string than toward string passages defined by a cutting head. Nonetheless, FIG. 2 of the Morabit patent appears to show a cutting string winding circumferentially within the illustrated head. While the eyelet "4" may arguably be construed as a passageway, it can only be arguably construed as a radial passageway. Note that the string "3" passing through the eyelet clearly extends along a radial axis that intersects the axis of rotation at the center of the shaft "2". Any axis linearly extended from the eyelet would intersect the axis of rotation and would therefore not be spaced a distance from the axis of rotation. Therefore, the Morabit patent cannot be construed to show any passageway extending along an axis that is spaced a distance from an axis of rotation.

In summary, the Ballas patent, the Morabit patent, and their combination fail to disclose and fail to render obvious a string passageway that extends along an axis that is spaced a distance from an axis of rotation of a cutting head. For at least these reasons, independent Claim 1, and

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dependent Claims 2-13 therewith, and independent Claim 14, and dependent Claims 16-24 therewith, are all patentable over the Ballas and Morabit Patents.

Claim 25, which depends from Claim 1, has been newly added by amendment. In Claim 25, the passageway defines an opening at a peripheral location of the cutting head, and the passageway extends linearly from the opening to the curved portion recited in Claim 1. For example, in FIG. 4 as shown above in this paper, the passageway 112 defines the opening 113 at a peripheral location of the head, and the passageway 112 extends linearly (along the axis "A") from the opening 113 to the curved portion 120. Furthermore, in Claim 25, the peripheral region associated with the curved portion is circumferentially spaced from the peripheral location associated with the opening. For example, in FIG. 4 above, the peripheral region of the head reached by the curved portion 120 is circumferentially spaced from the peripheral location of the opening 113. Thus, dependent Claim 25 recites features that are patentable over the cited references in addition to those features cited in the independent claims.

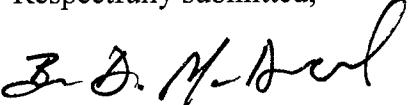
The patentability of each independent claim has been discussed as set forth above without taking this opportunity to comment on additional merits of each dependent claim. This does not concede that the dependent claims are not patentable for additional reasons. The right to remark upon the patentability of the dependent claims at a later date if necessary is reserved.

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**Conclusion**

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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